

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 1. (Currently Amended) A method, comprising:
2 receiving audiovisual data from a desired transmission channel;
3 if said audiovisual data is not compressed according to a predetermined format,
4 compressing said received audiovisual data according to said predetermined format;
5 in response to receiving a record request prior to a broadcast time of the audiovisual data,
6 storing dynamically, in a mass storage device and for a predefined period of time, compressed
7 audiovisual data received from said desired transmission channel to be included in a title plan
8 generated by a time shift scheduler, wherein said title plan includes information identifying a
9 plurality of content stored dynamically as compressed audiovisual data, wherein at least one of
10 said plurality of content has a variable duration, wherein storing compressed audiovisual data
11 dynamically comprises:
12 allocating a portion of memory in the mass storage device for recording a portion
13 of the at least one of said plurality of content having the variable duration for subsequent
14 access by users;
15 utilizing a predetermined amount of said allocated portion of memory to record a
16 portion of the at least one of said plurality of content having a variable duration;
17 allocating an additional portion of memory in the mass storage device to record a
18 next portion of the at least one of said plurality of content having the variable duration in
19 response to utilizing said predetermined amount of said allocated portion of memory;
20 determining when reception of the at least one of said plurality of content having
21 the variable duration has terminated;
22 repeating said utilizing and said allocating said additional portion of memory until
23 at least one of said plurality of content having the variable duration is determined to have
24 terminated so that all of said at least one of said plurality of content having a variable
25 duration is stored; and

26 deallocating any allocated portion of memory not used to record the at least one of
27 said plurality of content having a variable duration after at least one of said plurality of
28 content having the variable duration is determined to have terminated; and
29 in response to a user request, providing to said user said stored compressed audiovisual
30 data beginning with a portion of said stored compressed audiovisual data having associated with
31 it a first temporal parameter.

1 2. (Currently Amended) In a system adapted to receive broadcast content on a
2 desired transmission channel from each of a plurality of content sources and forward said
3 received broadcast content to a transport network for distribution to subscribers, a method
4 comprising:

5 in response to a title plan generated by a time shift scheduler, wherein said title plan
6 includes information identifying a plurality of content, wherein at least one of said plurality of
7 content has a variable duration, in response to receiving a record request prior to a broadcast time
8 of the plurality of content, storing dynamically the plurality of content in a server and associating
9 with the plurality of content a temporal parameter, wherein storing dynamically comprises:

10 allocating a portion of memory in a mass storage device for recording a portion of
11 the at least one plurality of content having a variable duration for subsequent access;

12 utilizing a predetermined amount of said allocated portion of memory to record a
13 portion of the at least one plurality of content having a variable duration;

14 allocating an additional portion of memory in the mass storage device to record a
15 next portion of the at least one plurality of content having a variable duration in response
16 to utilizing said predetermined amount of said allocated portion of memory;

17 determining when reception of the at least one plurality of content having the
18 variable duration has terminated;

19 repeating said utilizing and said allocating said additional portion of memory until
20 at least one plurality of content having the variable duration is determined to have
21 terminated so that all of said at least one of said plurality of content having a variable
22 duration is stored; and

23 deallocating any allocated portion of memory not used to record the at least one
24 plurality of content having a variable duration after at least one plurality of content
25 having the variable duration is determined to have terminated; and
26 forwarding the plurality of content to said transport network for distribution in
27 accordance with said temporal parameter to a requesting subscriber; and
28 in response to a subscriber request for temporally shifted content associated with the
29 plurality of content, forwarding the stored plurality of content to said transport network for
30 distribution to said requesting subscriber.

1 3. (Previously Presented) The method of claim 2, further comprising:
2 forwarding to said transport network only the received plurality of content presently
3 requested by any subscriber.

1 4. (Previously Presented) The method of claim 2, further comprising:
2 storing, in said server, the plurality of content presently requested by a threshold number
3 of subscribers.

1 5. (Previously Presented) The method of claim 2, wherein said storing of the
2 desired plurality of content comprises storing a temporally sub-sampled version of the desired
3 plurality of content to generate a fast-forward track.

1 6. (Previously Presented) The method of claim 2, wherein said storing of said
2 desired plurality of content comprises storing a temporally sub-sampled version of the desired
3 plurality of content in reverse order to generate a reverse track.

1 7. (Previously Presented) The method of claim 2, wherein said storing of said
2 desired plurality of content comprises storing a version of the desired plurality of content to
3 generate a play track.

1 8. (Previously Presented) The method of claim 2, further comprising, storing
2 selected plurality of content during a predetermined time interval of a broadcast schedule.

1 9. (Previously Presented) The method of claim 2, wherein said subscriber
2 request for temporally shifted content is initiated by receiving a subscriber title selection from a
3 time shift interactive programming guide screen.

1 10. (Previously Presented) The method of claim 2, wherein said subscriber
2 request for temporally shifted content is initiated by receiving a subscriber title selection from a
3 time shift navigation screen.

1 11. (Previously Presented) The method of claim 2, wherein said subscriber
2 request for temporally shifted content is initiated by receiving a pause or rewind subscriber
3 selection while broadcasting of said desired plurality of content.

1 12. (Currently Amended) A method for providing video information in an interactive
2 information distribution system to a plurality of subscribers, comprising:

3 receiving a plurality of scheduled broadcast programs on a desired transmission channel
4 in real-time;

5 selecting a portion of said broadcast programs according to a title plan generated by a
6 time shift scheduler, wherein said title plan includes information identifying a plurality of
7 content, wherein at least one of said plurality of content has a variable duration;

8 processing said selected broadcast programs into temporally adjusted content, such that
9 the temporally adjusted content is associated with said selected broadcast programs;

10 in response to receiving a record request prior to a broadcast time of at least one program
11 having a variable duration, storing dynamically said temporally adjusted content of the at least
12 one program having a variable duration for later access by subscribers, wherein storing
13 dynamically said temporally adjusted content of the at least one program having a variable
14 duration for later access by subscribers comprises:

15 allocating a portion of memory in a mass storage device for recording a portion of
16 the temporally adjusted content of the at least one program having a variable duration;

utilizing a predetermined amount of said allocated portion of memory to record the portion of the temporally adjusted content of the at least one program having a variable duration;

allocating an additional portion of memory in the mass storage device to record a next portion of the temporally adjusted content of the at least one program having a variable duration in response to utilizing said predetermined amount of said allocated portion of memory;

determining when reception of the at least one program having the variable duration has terminated;

repeating said utilizing and said allocating said additional portion of memory until at least one program having the variable duration is determined to have terminated so that all of the temporally adjusted content of the at least one program having a variable duration is stored; and

deallocating any allocated portion of memory not used to record the temporally adjusted content of the at least one program having a variable duration after at least one program having the variable duration is determined to have terminated; and

broadcasting said plurality of scheduled broadcast programs to said plurality of subscribers via said desired transmission channel; and

in a first mode of operation, associating a temporal parameter to said temporally adjusted content of the at least one program having a variable duration and streaming, on-demand, said temporally adjusted content of the at least one program having the variable duration and said temporal parameter to those subscribers viewing said selected broadcast programs currently being broadcast, such that said subscribers may interactively activate such temporally adjusted content of the at least one program having a variable duration contemporaneously with said currently broadcast programs.

13. (Previously Presented) The method of claim 12, further comprising:
providing a navigator list to said subscribers having screens presenting said selected broadcast programs having temporally adjusted content for viewing and selection,

4 wherein in an alternate mode of operation, streaming, on-demand, said temporally
5 adjusted content via said navigator list, such that said subscribers may interactively activate such
6 temporally adjusted content during viewership of previously scheduled broadcast programs
7 selected from said navigator list.

1 14. (Previously Presented) The method of claim 13, wherein said subscribers
2 may interactively switch between said first mode and said alternate mode of operation.

1 15. (Previously Presented) The method of claim 12, wherein said selecting step
2 comprises:
3 monitoring subscriber viewership; and
4 selecting those broadcast programs having a viewership exceeding a predetermined
5 metric.

1 16. (Previously Presented) The method of claim 12, wherein said selecting step
2 further comprises:
3 generating title plans for identifying said broadcast programs to be temporally adjusted;
4 and
5 defining a temporal availability window for each program.

1 17. (Previously Presented) The method of claim 16, wherein said processing
2 step comprises:
3 generating real-time encoded play tracks, fast-forward tracks, rewind tracks, and entry
4 point data (EPD) files associated with each track, said fast-forward tracks and rewind tracks
5 forming said temporally adjusted content.

1 18. (Previously Presented) The method of claim 17, wherein said processing
2 step further comprises:
3 encoding said broadcast programs identified in said title plan to form said temporally
4 adjusted programs; and
5 buffering said encoded broadcast programs.

1 19. (Previously Presented) The method of claim 18, wherein said processing
2 step further comprises:
3 receiving packetized transport streams from at least one encoder; and
4 inserting title identification codes (TICS) to each packet to enable said transport streams
5 to be identified as said real-time encoded play tracks, fast-forward tracks, and rewind tracks.

1 20. (Previously Presented) The method of claim 19, further comprising:
2 generating said EPD files as said fast-forward and rewind tracks are being created.

1 21. (Previously Presented) The method of claim 20, wherein said EPD files
2 provide transition between streaming of the Play, fast-forward and rewind tracks at appropriate
3 points in response to user commands.

1 22. (Previously Presented) The method of claim 19, wherein said storing step
2 comprises:
3 receiving said buffered encoded broadcast programs;
4 storing said real-time play tracks in a plurality of extents;
5 storing said fast-forward tracks in extents in a front to back order; and
6 storing said rewind tracks in extents in a back to front order.

1 23. (Previously Presented) The method of claim 22, where said storing step
2 further comprises storing selected broadcast programs from a particular channel for a fixed
3 window of time.

1 24. (Previously Presented) The method of claim 22, where said storing step
2 further comprises storing selected broadcast programs from a plurality of channels.

1 25. (Previously Presented) The method of claim 12, wherein said first mode of
2 operation further comprises providing an interactive program guide (IPG) to said subscribers
3 having screens presenting said selected broadcast programs having temporally adjusted content
4 for viewing and selection.

26. (Canceled)

27. (Previously Presented) The method of claim 12, wherein said first mode of operation further comprises receiving a temporal control message from a subscriber selected from the group of temporal control messages consisting of pause, rewind, and fast-forward.

28. (Currently Amended) A system for providing video information in an interactive information distribution system to a plurality of subscribers, comprising:

means for receiving a plurality of scheduled broadcast programs on a desired transmission channel in real-time;

means for selecting a portion of said broadcast programs according to a title plan generated by a time shift scheduler, wherein said title plan includes information identifying a plurality of content, wherein at least one of said broadcast programs has a variable duration;

means for processing said selected broadcast programs into temporally adjusted content, such that the temporally adjusted content is associated with said selected broadcast programs;

in response to receiving a record request prior to a broadcast time of at least one program having a variable duration,

means for storing dynamically, in response to receiving a record request prior to a broadcast time of at least one program having a variable duration, said temporally adjusted content of the at least one program having a variable duration for later access by subscribers, wherein storing dynamically comprises:

allocating a portion of memory in a mass storage device for recording a portion of the temporally adjusted content of the at least one program having a variable duration;

utilizing a predetermined amount of said allocated portion of memory to record the portion of the temporally adjusted content of the at least one program having a variable duration;

allocating an additional portion of memory in the mass storage device to record a next portion of the temporally adjusted content of the at least one program having a variable duration in response to utilizing said predetermined amount of said allocated portion of memory;

25 determining when reception of the at least one program having the variable
26 duration has terminated;
27 repeating said utilizing and said allocating said additional portion of memory until
28 at least one program having the variable duration is determined to have terminated so that
29 all of the temporally adjusted content of the at least one program having a variable
30 duration is stored; and
31 deallocating any allocated portion of memory not used to record the temporally
32 adjusted content of the at least one program having a variable duration after at least one
33 program having the variable duration is determined to have terminated; and
34 means for broadcasting said plurality of scheduled broadcast programs to said plurality of
35 subscribers via said desired transmission channel; and
36 in a first mode of operation, means for associating a temporal parameter to said
37 temporally adjusted content of the at least one program having a variable duration and streaming,
38 on-demand, said temporally adjusted content of the at least one program having a variable
39 duration and said temporal parameter to those subscribers viewing said selected broadcast
40 programs currently being broadcast, such that said subscribers may interactively activate such
41 temporally adjusted content of the at least one program having a variable duration
42 contemporaneously with said currently broadcast programs.